

Work Order ID 109277

\*109277\*

Page 1

November-18-13 10:11:46 AM

Item ID: D3653-041

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Cyclic Control Stick Hand Grip

Start Date: 11/18/13 Start Qty: 3.00 \*3\*

Cust Item ID:

Required Date: 11/18/13 Req'd Qty: 3.00 \*3\*

Customer:

Reference: reinspect

Approvals: Process Plan: *W* Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
|----------|--------------|

|       |       |
|-------|-------|
| D3653 | Rev A |
|-------|-------|

|     |                                    |      |
|-----|------------------------------------|------|
| 120 | QC6- Inspect dimensions to drawing | 0.00 |
|-----|------------------------------------|------|

\*120\*

QC

Quality Control

Memo

PULL FROM STK:  
3 X D3653-041 B37121  
RE-INSPECT TO DRWG (P111-C)

0.00

130

Identify as per dwg & Stock Location: \_\_\_\_\_ 0.00

\*130\*

Packaging

Packaging

Memo

0.00

140

QC21- Final Inspection - Work Order Release 0.00

\*140\*

QC

Quality Control

Memo

0.00

*email per Pat / Wiz*

*Wiz 11-20*

# Picklist Print

November-18-13 10:11:46 AM

Page 1

Work Order ID: 109277

Parent Item: D3653-041

Parent Item Name: Cyclic Control Stick Hand Grip

Start Date: 11/18/13

Required Date: 11/18/13

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP Rev:A 07-12-19 new issue ECN960 DD

| Component Item ID/<br>Item Name             | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D3653-041<br>Cyclic Control Stick Hand Grip |                        | Manufactured  | No          |                     |                  |                 | Each               | 0.0000         |             | 3            |               |                |        |

37121

United States of America  
Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**

*Number* SH4786NM

*This certificate, issued to*

**DART Aerospace USA, Inc.  
19717 62nd Avenue South, Suite E-101  
Kent, WA 98032**

*certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 27 of the Federal Aviation Regulations.*

|  |  |
|--|--|
| <i>Original Product—Type Certificate Number:</i> | H9EU   |
| <i>Make:</i>                                     | Eurocopter France  |
| <i>Model:</i>                                    | AS350B, AS350BA, AS350B1, AS350B2, AS350B3,<br>AS350C, AS350D, and AS350D1 |

*Description of the Type Design Change:* Fabrication and Installation of dual control collective and cyclic sticks per Geneva Aviation Master Drawing List GA122, Revision B, dated May 30, 2003, or later Federal Aviation Administration (FAA) approved revision.

*Limitations and Conditions:* Approval of this change in type design applies to the above model aircraft only. This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this certificate must be maintained as part of the permanent records for the modified aircraft.

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

*Date of application:* September 18, 1989

*Date reissued:* 6/27/07; 3/5/09; 11/8/12

*Date of issuance:* November 6, 1989

*Date amended:* November 6, 2007



*By direction of the Administrator*

(Signature)

AS Acting Manager, Seattle Aircraft Certification Office  
(Title)

**Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.**

**This certificate may be transferred in accordance with FAR 21.47.**



Transport Canada Transports Canada

**Department of Transport**

***Supplemental Type Certificate***

**This approval is issued to:**

Dart Aerospace USA, Inc.  
19717 62nd Ave. South  
Suite E-101  
Kent, Washington  
United States of America 98032

**Number:** SH93-73

**Issue No.:** 4

**Approval Date:** December 22, 1993

**Issue Date:** January 31, 2013

**Responsible Office:**

Pacific

**Aircraft/Engine Type or Model:**

Eurocopter France AS 350 Series

**Canadian Type Certificate or Equivalent:**

H-83

**Description of Type Design Change:**

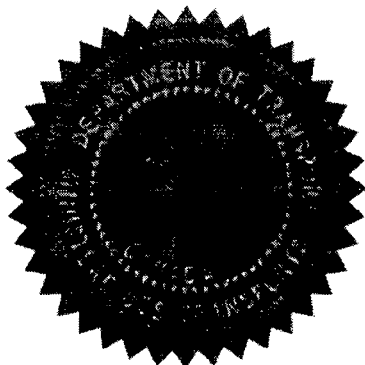
Installation of Dual Control Collective and Cyclic Sticks in accordance with FAA STC SH4786 NM.

**Installation/Operation Data,  
Required Equipment  
And Limitations:**

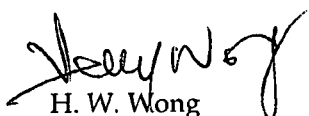
Fabrication and Installation of dual control collective and cyclic sticks are to be carried out in accordance with FAA approved Geneva Aviation Drawing List GA122, Revision B, dated May 30, 2003 \*.

(\* or later FAA approved revisions)

— End —



**Conditions:** This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.

  
H. W. Wong  
For Minister of Transport

**Canada**

**GA122-1**  
**Revision C**  
**August 7, 2009**

**Installation Instructions**  
**for**  
**Replacement Copilot Flight Controls,**  
**Pilot or Copilot Cyclic Stick and/or Hand Grips**

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**1.0 Introduction**

- 1.1. The steps below are to be followed when installing replacement Copilot Flight Controls, Pilot or Copilot Cyclic Stick and/or Hand Grips in accordance with STC SH4786NM. Read all steps before starting the installation.
- 1.2. There are several options which are approved by this STC. They are grouped by Pilot or Copilot flight control sections.
- 1.3. Pilot Flight Control Options:
  - A. Kit P/N P111: Install Geneva Grip G10204 onto existing Eurocopter (EC) Bendix Cyclic Stick.
  - B. Kit P/N P107-P: Install the Geneva Pilot Bendix Cyclic Stick G12425-26 and Geneva Grip G10204.
  - C. Kit P/N P107-PX: Install the Geneva Pilot Bendix Cyclic Stick G12425-26 using EC Bendix Grip #PM22880U.
  - D. Kit P/N P107-PZ: Install Geneva Pilot Cyclic Stick G12316-26 using EC Crouzet Grip #83-910-004.
- 1.4. Copilot Flight Control Options:
  - A. Kit P/N P111: Install Geneva Grip G10204 onto existing EC Bendix Cyclic Stick.
  - B. Kit P/N P107-CZ: Install Geneva Copilot Cyclic Stick G12324-26 using EC Crouzet Grip #83-910-004. Note: Crouzet Grip is sold separately by Eurocopter and not included in this kit.

C. Kit P/N P107-C: Install the complete Copilot replacement flight controls kit comprised of the following:

- Copilot Bendix Cyclic Stick G12426-26
- Grip G10204
- Copilot Collective Stick G10201 with mounting hardware
- EC standard Yaw Control pedals and mounting hardware.

1.5. Electrical Connections: Refer to the EC Wiring Diagrams Manual (WDM) section 67 for configuration specific wiring diagrams. All wiring routing and connections are to be performed IAW EC Standard Practices Manual.

**2.0 Installation of Kit P111: Geneva Grip G10204 and existing EC Bendix Cyclic Stick.**

- 2.1. Refer to EC MWC's 67.10.00.402.
- 2.2. Remove existing cyclic stick in accordance with MWC.
- 2.3. Remove existing Bendix grip from cyclic stick. Be sure to label wire numbers when disconnecting cable harness from switches.
- 2.4. Remove cable harness from stick.
- 2.5. Refer to drawing G12907, add extension G10205 to top of stick.
- 2.6. Install cable harness into stick and connect cables to switches in grip G10204. Mount grip onto stick.
- 2.7. Reinstall cyclic stick into airframe and connect wiring.
- 2.8. Perform functional test as described in Section 8.0.

### **3.0 Installation of Kit P107-P: Geneva Pilot Bendix Cyclic Stick G12425-26 and Geneva Grip G10204.**

- 3.1. Refer to EC MWC's 67.10.00.402.
- 3.2. Remove existing EC cyclic stick in accordance with MWC.
- 3.3. Remove existing grip from EC cyclic stick. Be sure to label wire numbers when disconnecting cable harness from switches.
- 3.4. Remove cable harness from EC cyclic stick to be reused later.
- 3.5. Refer to drawing G12907, add extension G10205 to top of stick.
- 3.6. Install cable harness into Geneva Bendix cyclic stick and connect cables to switches in new grip G10204. Mount grip onto stick.
- 3.7. Install Geneva Bendix cyclic stick into airframe and connect wiring.
- 3.8. Perform functional test as described in Section 8.0.

### **4.0 Installation of Kit P107-PX: Geneva Pilot Bendix Cyclic Stick G12425-26 and EC Bendix Grip #PM22880U.**

- 4.1. Refer to EC MWC's 67.10.00.402.
- 4.2. Remove existing EC cyclic stick in accordance with MWC.
- 4.3. Remove existing Bendix grip from EC cyclic stick. Be sure to label wire numbers when disconnecting cable harness from switches.
- 4.4. Remove cable harness from EC cyclic stick to be reused later.
- 4.5. Install cable harness into Geneva Pilot Bendix Cyclic Stick G12425-26 and connect cables to switches of EC Bendix grip. Mount grip onto stick.
- 4.6. Reinstall cyclic stick into airframe and connect wiring.
- 4.7. Perform functional test as described in Section 8.0.

**5.0 Installation of Kit P107-PZ: Geneva Pilot Cyclic Stick G12316-26 and EC Crouzet Grip #83-910-004**

- 5.1. Refer to EC MWC's 67.10.00.402.
- 5.2. Remove existing EC cyclic stick in accordance with MWC.
- 5.3. Remove existing Crouzet grip from cyclic stick. Be sure to label wire numbers when disconnecting cable harness from switches.
- 5.4. Remove cable harness from EC cyclic stick to be reused later.
- 5.5. Install cable harness into Geneva Pilot Cyclic Stick G12316-26 and connect cables to switches of Crouzet grip. Mount grip onto stick.
- 5.6. Install Geneva Pilot Bendix Cyclic Stick into airframe and connect wiring.
- 5.7. Perform functional test as described in Section 8.0.

**6.0 Installation of Kit P107-CZ: Geneva Copilot Cyclic Stick G12324-26 and EC Crouzet Grip #83-910-004**

- 6.1. Refer to EC MWC's 67.10.00.401.
- 6.2. Crouzet Grip is sold separately by Eurocopter and is not included in this kit.
- 6.3. Install cyclic wiring harness (not included) into Geneva cyclic stick G12324-26 and connect cables to switches in Crouzet grip. Mount grip onto stick.
- 6.4. Install Geneva cyclic stick into airframe using quick release pin and connect wiring.
- 6.5. Perform functional test as described in Section 8.0.



## **7.0 Installation of Kit P107-C: Copilot Replacement Flight Controls**

- 7.1. Refer to EC MWC's 67.10.00.401.
- 7.2. Refer to drawing G12907, add extension G10205 to top of stick.
- 7.3. Install wiring harness into Geneva Bendix cyclic stick and connect cables to switches in grip G10204. Mount grip onto stick.
- 7.4. Install Geneva Bendix cyclic stick into airframe using quick release pin and connect wiring.
- 7.5. Install Geneva Collective Stick G10201, rubber boot and protective cover into airframe with hardware provided in kit.
- 7.6. Install Yaw Control Pedals into airframe using quick release pins.
- 7.7. Perform functional test as described in Section 8.0.

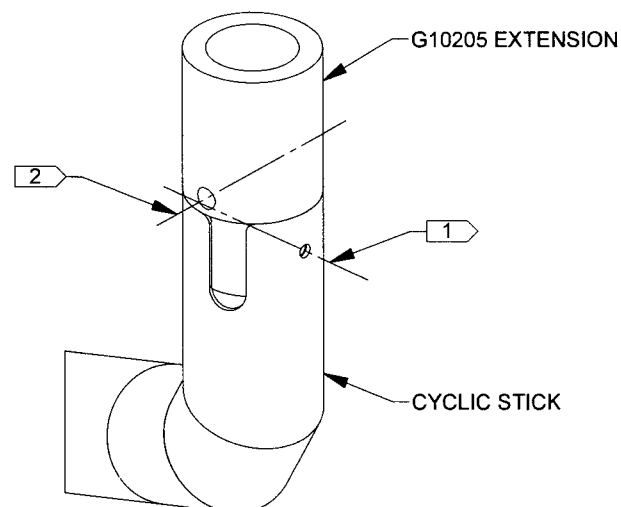
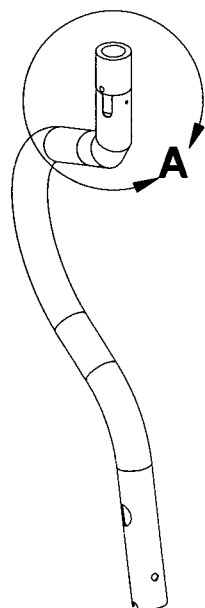
**8.0 PROJECT COMPLETION AND DOCUMENTATION.**

- 8.1. Perform a functional test of the controls contained within the stick grip. Assure replacement flight controls are functioning properly.
- 8.2. This installation is considered a major alteration and must be inspected and returned to service per applicable regulations. Update weight and balance information per Eurocopter maintenance information.

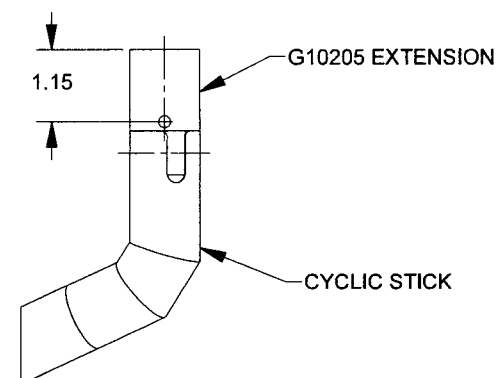
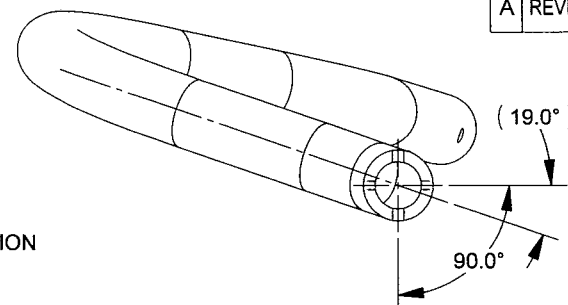
**LOG OF REVISIONS**

| REVISION LEVEL | DATE OF REVISION | PAGES     | DESCRIPTION OF CHANGE   | APPROVAL |
|----------------|------------------|-----------|---|----------|
| --             | 11/21/89         | All Pages | Initial Release   | GC       |
| A              | 10/3/90          | All Pages | Removed references to GA107-3 and G10251  | GC       |
| B              | 5/30/03          | All Pages | Updated format to OEM Standards; Added Option E (Collective Switch Box)                 | CLB      |
| C              | 8/7/09           | All Pages | Removed Collective Switch Box Option E; Added new cyclic sticks to STC replacing G10202 | CLB      |
|                |                  |           |   |          |

| REVISIONS |                              |                |
|-----------|------------------------------|----------------|
| REV       | DESCRIPTION                  | APPROVED       |
| A         | REVISED EFFECTIVE STICK LIST | 8/10/09<br>CLB |



DETAIL A  
SCALE 1 : 1



## INSTRUCTIONS

- 1 BACK-DRILL  $\phi .129$  HOLE THROUGH EXTENSION USING EXISTING HOLES IN STICK; INSTALL EXTENSION USING (2) CR3213-4-3 RIVETS
- 2 LAYOUT AND DRILL  $\phi .189$  HOLE THROUGH EXTENSION AT  $90^\circ$  TO EXISTING HOLE;  
BOTTOM SCREW IN GRIP WILL MOUNT THROUGH THIS HOLE

THESE INSTRUCTIONS PROVIDE FOR THE INSTALLATION OF CYCLIC GRIP G10204 ONTO THE FOLLOWING:

- EUROCOPTER BENDIX STICKS
- GENEVA RH BENDIX STICK G12425-26
- GENEVA LH BENDIX STICK G12426-26

|   |          |     |      |              |
|---|----------|-----|------|--------------|
| BREAK SHARP EDGES<br>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>FRACTIONS DECIMAL ANGLES<br>$\pm 1/8"$ X $\pm .050$ $\pm 2^\circ$<br>XX $\pm .030$<br>XXX $\pm .010$ | DESIGNED | CLB | DATE | 1/30/07      |
|   | DRAWN    |     | DATE |              |
|   | CHECKED  |     | DATE |              |
|   | APPROVED | CLB | DATE | 1/30/07      |
| THIS DOCUMENT INCLUDES INFORMATION PROPRIETARY TO GENEVA AVIATION AND SHALL NOT BE USED OR DUPLICATED BY ANYONE WITHOUT THE WRITTEN PERMISSION OF GENEVA AVIATION, INC.                             |          |     |      |              |
| Drawing Number G12907   |          |     |      | REV A        |
| Pro No: GA122 SIZE B Scale: NONE  |          |     |      | Sheet — of — |

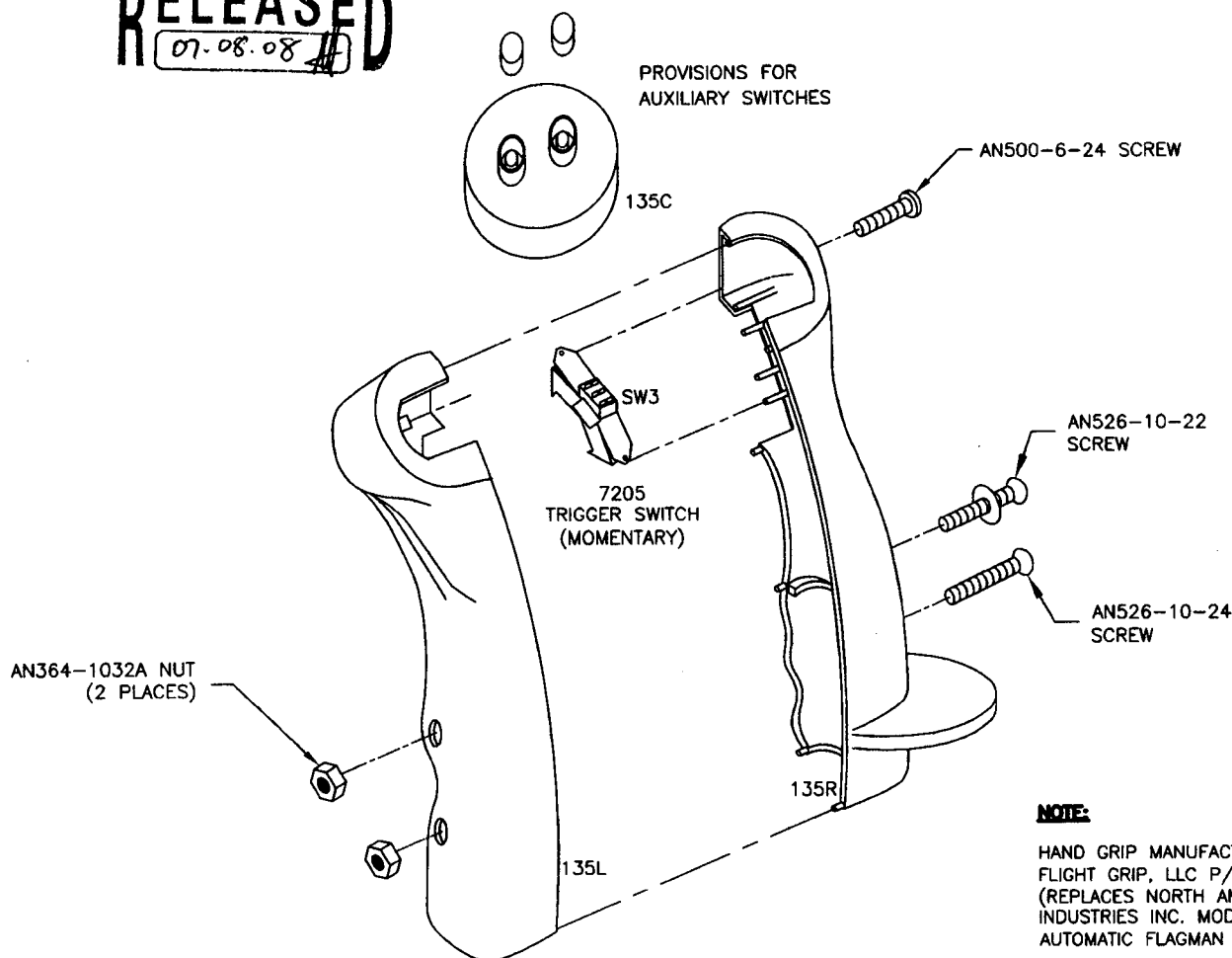
**GENEVA**  
AVIATION

Title CYCLIC GRIP INSTALLATION



|                  |                |  |                        |
|------------------|----------------|--|------------------------|
| DESIGN<br>CLB    | DRAWN BY<br>BC | DART AEROSPACE USA, INC.<br>PORT HADLOCK, WA |                        |
| CHECKED<br>B     | APPROVED<br>H  | DRAWING NO.<br>D3653                         | REV. A<br>SHEET 1 OF 1 |
| DATE<br>07.05.14 |                | TITLE<br>CYCLIC CONTROL STICK HAND GRIP      | SCALE<br>1:2           |
| A                | 07.05.14       | NEW ISSUE: REPLACES G10204                   |                        |

RELEASED  
07-08-08



**NOTE:**

HAND GRIP MANUFACTURED BY:  
FLIGHT GRIP, LLC P/N # 0645730  
(REPLACES NORTH AMERICAN  
INDUSTRIES INC. MODEL 135,  
AUTOMATIC FLAGMAN CONTROL)

**D3653-041 CYCLIC CONTROL STICK HAND GRIP**  
(REPLACES GENEVA P/N G10204)

**PARTS LIST**

| QTY<br>-041 | PART NUMBER | DESCRIPTION                       |
|-------------|-------------|-----------------------------------|
| X           | D3653-041   | CYCLIC CONTROL STICK HAND GRIP    |
| 1           | 135C        | PROVISIONS FOR AUXILIARY SWITCHES |
| 1           | 135L        | LEFT HAND GRIP                    |
| 1           | 135R        | RIGHT HAND GRIP                   |
| 2           | AN364-1032A | NUT                               |
| 1           | AN500-6-24  | SCREW                             |
| 1           | AN526-10-22 | SCREW                             |
| 1           | AN526-10-24 | SCREW                             |
| 1           | 7205        | TRIGGER SWITCH (MOMENTARY)        |

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